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Term-time Employment and Student Attainment in Higher Education

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ABSTRACT

The number of UK full-time university students engaging in term-time employment (TTE) is rising. Students engaging in TTE have previously been found to achieve less well academically than those who do not. This study aimed to explore patterns of TTE and academic achievement of undergraduates at a large UK higher education institution. Self-reported TTE hours were matched to attainment data for 1304 undergraduate students in levels 1-4 of study (SQCF levels 7-10). The majority of students in TTE (71%, n=621) reported undertaking TTE to cover essential living expenses. Compared to students not undertaking TTE, attainment was significantly better at low levels of TTE (1-10 hours), and only significantly worse when TTE was >30 hours/week. This pattern was magnified when job type was taken into account – students employed in skilled roles for ≤10 hours/week on average attained grades 7% higher than those not in TTE; students working >10 hours/week in unskilled positions showed a mean 1.6% lower grade. The impact of 'academic potential' (measured via incoming UCAS tariff) was accounted for in the model. The finding that students engaging in some categories of TTE achieve better academic outcomes than their non-employed peers is worthy of further investigation. This study is unable to provide direct evidence of possible causation, but would tentatively suggest that students may benefit from taking on 10 or fewer hours of TTE per week.

Keywords: employment; attainment; higher education; performance; workload.

Introduction

Student term-time employment (TTE) across the UK is increasing: the 2015 Endsleigh Insurance annual student survey (n=4642) found a substantial increase in the proportion of students who work to fund studies. The survey suggested that around 77% of all students now rely, at least in part, on income from employment (up from 59% in 2014 and 57% in 2013). One third of students were found to engage in part-time TTE and a further 14% hold down full-time jobs, either in breaks from study, during term time or both. Higher figures for TTE have also been reported; Robotham (2009) found that 68% of 270 business students engaged in TTE. Recommendations published by the Scottish Executive at the turn of the century proposed that students work no more than a term time maximum of 10 hours per week (Cubie, 1999). Previous studies have shown that the majority of students in TTE work more than 10 hours per week (Robotham 2009; Callender 2008). The relatively high number of students engaging in TTE alongside full-time university study raises concerns about the impact of TTE on attainment.

Research in the UK has found that TTE has a negative effect on attainment. Callender (2008) found that students who engaged in the mean of 15 TTE hours per week were 33% less likely to get a good degree (first or upper second) than a paired (having matching entry tariff score) non-employed student. A 2004 study (Hunt, Lincoln, & Walker) came to similar conclusions; TTE had a significant negative effect on attainment, with students undertaking TTE having a three percentage point lower grade than those not in TTE. These findings support those from studies that have examined student perception of the relationship between study and TTE – the majority of students who are employed during term time both think that they will achieve less academically than their non-employed counterparts (McGregor 2015; Curtis & Shani, 2002; Little & Callender, 2005), and actually do achieve less (Callender 2008; Hunt, Lincoln, & Walker 2004). A rare exception to this negative perception of TTE by UK students was suggested by Little and Callender (2005): some students perceived TTE to be beneficial to their study for reasons of either useful experience or the social nature of the work if they worked for five hours or fewer per week, though the sample size of this group was small and information on their actual academic attainment was not available.

Concerns have been raised with regard to the effects of TTE on student health. Carney, McNeish and McColl (2005) aimed to quantify the effects of combining study and employment and found that students on average rated themselves as having poorer physical and mental health than members of the general population of the same age did. Further to this, the study showed that being in debt and undertaking TTE both have slight but significant detrimental effects on both mental and physical health, and that working more hours increased the probability that a student perceived a negative effect on academic performance. The study suggested a vicious circle of TTE resulting in poorer mental health which, in turn, resulted in increased perception of negative effects of TTE on attainment. McGregor (2015) also found that the majority of students in TTE thought that their mental health, social life and academic attainment had been negatively affected by working.

In contrast to the UK, research in the US has found that TTE has either no effect or a beneficial effect on attainment, and a beneficial effect on future employment prospects. In a review of the literature at the time, Stern and Nakata (1991) found overall benefits to

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students who worked during term time and this conclusion is reflected in more recent studies. Nonis and Hudson (2006) found that there was no negative correlation between term-time work and achievement; in fact, their study found that students with high motivation ('achievement striving') were likely to have high grades and also to successfully work for a higher numbers of hours. A 2009 survey by the US National Center for Education Statistics showed that students undertaking TTE of between one and 12 hours per week had higher attainment rates than students who did not work. Geel and Backes-Gellner (2012) found that graduate employment was significantly improved for those who participated in employment while studying, though in this case only if that employment was related to the student's area of study. Despite these positive findings, a study by Mounsey, Vandehey and Diekhoff (2013) echoed those of Carney, McNeish and McColl (2005) in the UK: a survey of 110 students showed that working students displayed more anxiety than non-working counterparts and reported more stress and fewer buffers, although there was no difference in levels of depression reported by the two groups.

These cultural differences are clearly reflected in institutional policy: while the top US schools (Princeton and Harvard) actively encourage students to take on TTE, the top UK universities (Oxford and Cambridge) actively discourage undergraduate employment (Gil, 2014), especially during term time. US institutions also have a focus on providing campus-based employment for students. A report by Gardebo & Wiggberg (2012) recommended more active use of students in employed posts at Uppsala University for the benefit of both the students and the university, but this approach is currently much less common in Europe than in the US.

Despite national differences in measures and attitudes, it is likely that some career benefits directly associated with TTE are common across all students. Cranmer (2006) reported that employability skills are extremely difficult to teach in the classroom. Employment-based training and experience were found to increase the likelihood of gaining employment after graduation. In McGregor's (2015) study, the majority of students in TTE reported that they believed that TTE would have a positive impact on their postgraduate employability despite perceiving negative effects on their undergraduate achievement. Clark, Marsden, Whyatt, Thompson & Walker (2015) found that interpersonal skills were improved 'to a major extent' by participating in paid employment during study, as was business and commercial awareness.

It is of course understood that factors other than TTE will affect attainment, academic potential of students being the most obvious. Entry qualifications have been cited as the most reliable indicator of degree outcome (Callender, 2008). This was supported by Thiele, Singleton, Pope and Stanistreet (2016) who found that although socioeconomic background may have some influence, there is a general positive association between pre-undergraduate results and final degree classification.

Study aim

The aim of the study was to investigate perceived as well as actual relationships between TTE and the academic attainment of students at a UK Higher Education Institution.

Methodology

Survey design

The survey questions were developed over the course of 2014-15. Two small paper-based pilot surveys were deployed, both to groups of around 50 students, to ensure that questions were clear and covered all areas of interest. For ease of deployment and analysis, the final survey was designed to be web-based.

Survey administration

The online survey (constructed using SNAP Professional 10) was administered to just over 7000 individuals at the University of Aberdeen (UoA). The survey was retrospective in that participants were asked to report on their previous year's employment, allowing a full set of academic grades to be matched to each individual.

Each individual registered in undergraduate levels 2, 3, 4 or 5 (undergraduate degrees in Scotland are normally 4 years long, with a small number running over 5 years) was sent a personalised e-mail with an invitation to complete the survey, giving a unique link to it. The survey was available for 10 days, and reminders were sent twice to individuals who had not participated. There was no enticement or offer of reward for participation in the survey.

The survey asked for the student ID number so that achieved grades and UCAS tariff for each participant could be identified. This raised the issue of collecting large quantities of personal data that could potentially be matched to individuals. Ethical approval for this aspect of the survey was granted via the University of Aberdeen College of Arts and Social Sciences Ethics Committee and students were asked to confirm that they had read the statement of ethics and data protection before they began the survey.

The survey software retained data whether or not a participant completed every question, meaning that results in some areas were drawn from differing population sizes, for example every student who provided ID number and number of TTE hours was included in the analysis of achievement, but not all of these participants included a job title or reasons for undertaking TTE.

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Academic attainment data and UCAS tariff points score were extracted from the Student Record System for each participant who had provided their ID number. Mean grade for each individual was calculated for the appropriate year of study, using the UoA 'Common Grading Scale' which is a linear scale running from zero to a maximum of 22. For UK students the score from their highest UCAS scoring pre-undergraduate academic year was calculated and recorded.

Data were downloaded into Excel 2013, coded to allow efficient grouping of data for statistical analysis, and then imported to SPSS (version 23, SPSS Inc., Chicago, IL, USA). Students were divided into 5 groups based on the mean hours of TTE carried out per week (None, 1-10 hours, 11-20, 21-30 and >30 hours). Generalised Linear Models (GLMs) were used to analyse the impact of term-time work on attainment. For UK students (n=926), the relative influence of academic quality was examined based on the UCAS score of their highest scoring pre-undergraduate year. This robust analysis extends linear models to account for a range of response data distributions, corrects for over-dispersion (Horton & Lipsitz, 1972; Louca, Lindsay, Majambere, & Lucas, 2009) and has been used in similar studies in the past (Nielsen, 2015). As data were normally distributed they were fitted to a linear function with an identity link. Hours of term-time work was the main factor tested, with the UCAS score treated as a covariate.

Results

The response rate was 24%, with 1652 responses that contained usable data (a small number of participants opened the survey and chose the option to not complete). Of these, 1304 were successfully linked to current information in the University Student Record System.

Description of participants

The majority of the 1304 respondents fell into the following separate categories: female (58%), under the age of 25 (90%), and from the UK (71%). Of all the survey participants, 58% (n = 902) stated that they had a term-time job and 41% (n = 646) did not. Of the students who stated a job title, 543 (70.5%) worked in the retail or leisure sectors; 96 (12.5%) students held care or teaching positions and smaller numbers were involved in the armed forces, jobs with the University, finance and admin and other roles. Participants were drawn from all 13 subject areas within the University.

Patterns of TTE

Participants reported their average engagement with TTE each week. 534 students stated that they did not engage in TTE; 152 worked up to 10 hours, 421 worked between 11-20 hours, 171 did 21-30 hours and 26 did over 30 hours per week. Those who did engage in TTE had median working hours of between 16 and 20 per week. There was no evidence to suggest that students decreased the number of TTE hours as they progressed through the years of their course. Among respondents, those in Level 1 were least likely to engage in TTE while those in Level 3 were most likely to have the median hours TTE – the study was not exhaustive however so these apparent effects may actually be coincidental.

Reasons for undertaking TTE

Participants were asked to report their primary reason for undertaking TTE. The majority (71%) worked to earn money to pay for essential living expenses such as rent, food, bills and supporting other family members. 10% were interested in gaining work experience, 6% worked to reduce loan debt and 13% for other reasons including being able to afford to socialise, have holidays or run a car.

Patterns in the overall data were echoed when it was broken down by TTE hours categories. Even at low numbers of TTE hours, 'Essential' reasons remained the main driver for engagement in TTE (Figure 1).

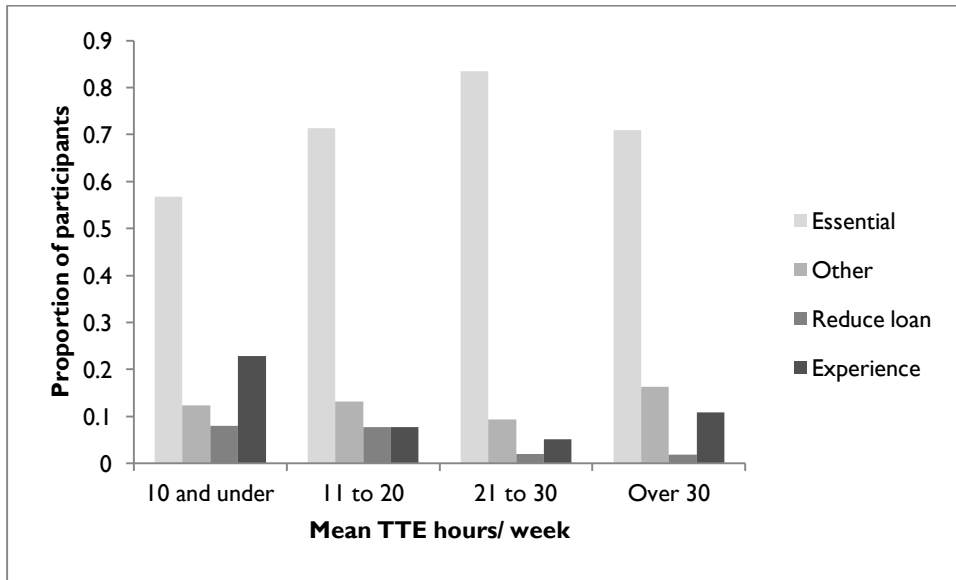


Figure 1 Principal reasons for engaging in TTE by hours of TTE undertaken. ‘Essential’ included paying for rent, food, bills and support of family members; ‘Other’ included taking holidays and running a car; ‘Reduce loan’ also included students who were working to avoid loan debt; ‘Experience’ also included students who just liked work for its own sake.

TTE and attainment

Perceived relationship between TTE and attainment

Participants were asked whether TTE had a negative effect on their attainment, using a Likert scale. As TTE hours increased, so did the students perception of effect on attainment (Figure 2), though a relatively large proportion perceived no negative effect.

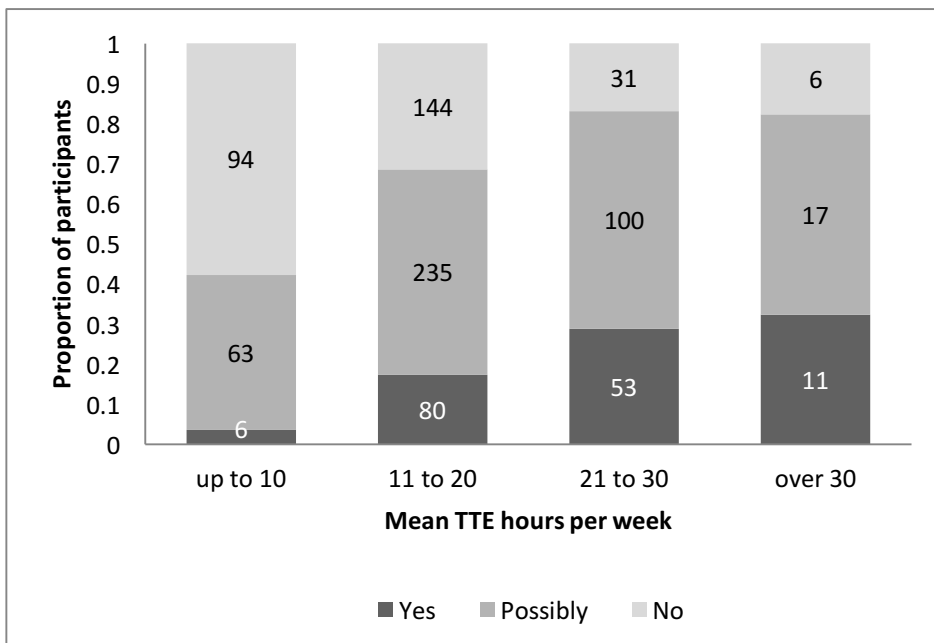


Figure 2 Student perception of the negative effect of TTE on attainment where perception was measured as a Likert scale. ‘Yes’ = perceived negative effect, ‘Possibly’ = possible perceived negative effect, ‘No’ = no perceived negative effect. N=840, actual numbers in each category shown on chart.

Actual relationship between TTE and attainment

For each participant who provided an ID number, mean end of year grade was compared to TTE hours worked. Participants who engaged in no TTE were considered to provide the baseline grade to which working participants could be compared. UCAS data for UK students were considered as a measure of academic potential.

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Participants who engaged in TTE of 10 hours or fewer were found to have significantly higher (4.9%) mean grades than the baseline group. Those who engaged in the median of band of 11-20 hours and in the band of 21-30 hours did not have significantly different grades to those in the baseline category; those who undertook more than 30 hours of TTE had significantly lower grades (12.7%). A significant positive relationship between the UCAS score of the student’s highest scoring pre-undergraduate year and attainment was also found and this has been accounted for in the analysis of TTE and attainment. (Figure 3, Table 1) such that patterns of attainment were consistent across all levels of academic potential (Figure 4).

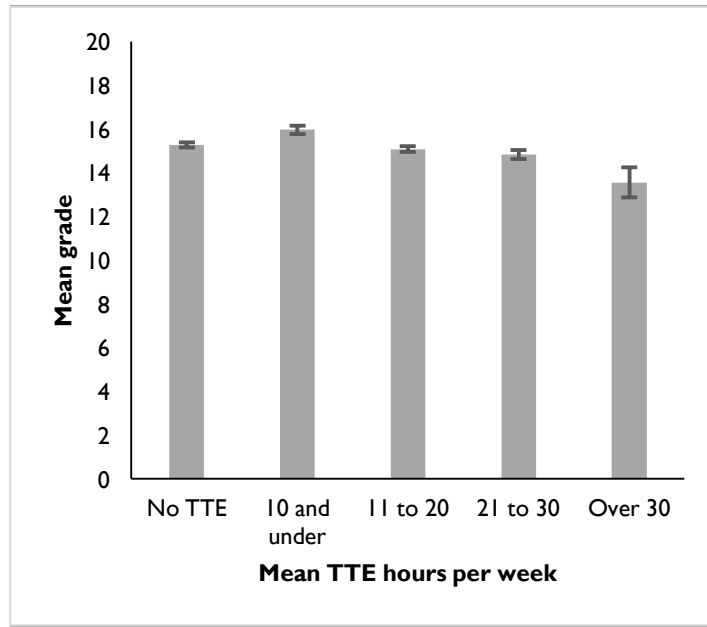


Figure 3 Mean grade (out of a possible 22), showing standard error of the mean SEM, associated with different TTE hours bands. Significant differences exist between groups (See Table 1). There was no significant difference between ‘No work’, ‘11-20’ and ‘21-30’, however mean grade was significantly higher in the ‘1-10’ group compared to ‘No work’ and significantly lower in the ‘>30’ group compared to ‘No work’.

Table 1 Generalised Linear Model output for mean participant end of year grade. Data were fitted on a linear scale with an identity link. Estimate refers to the regression coefficient for the 2 category variable (UCAS score and year grade) and relative importance of the measured variable in relation to the reference group for the categorical and nominal variables.

Factors	N	95% Wald CI			P
		Estimate	Lower	Upper	
Intercept		13.11	12.47	13.75	<0.01
Work (hours):					
>30	21	-1.67	-2.70	-0.64	<0.01
21-30	151	-0.30	-0.75	0.14	0.19
11-20	357	-0.54	-0.39	0.28	0.75
1-10	141	0.64	0.17	1.11	0.01
No work (reference group)	484	--			
Mean final year UCAS Score		0.26	0.19	0.03	<0.01

Statistically significant values (P ≤ 0.05) in bold. CI, confidence interval.

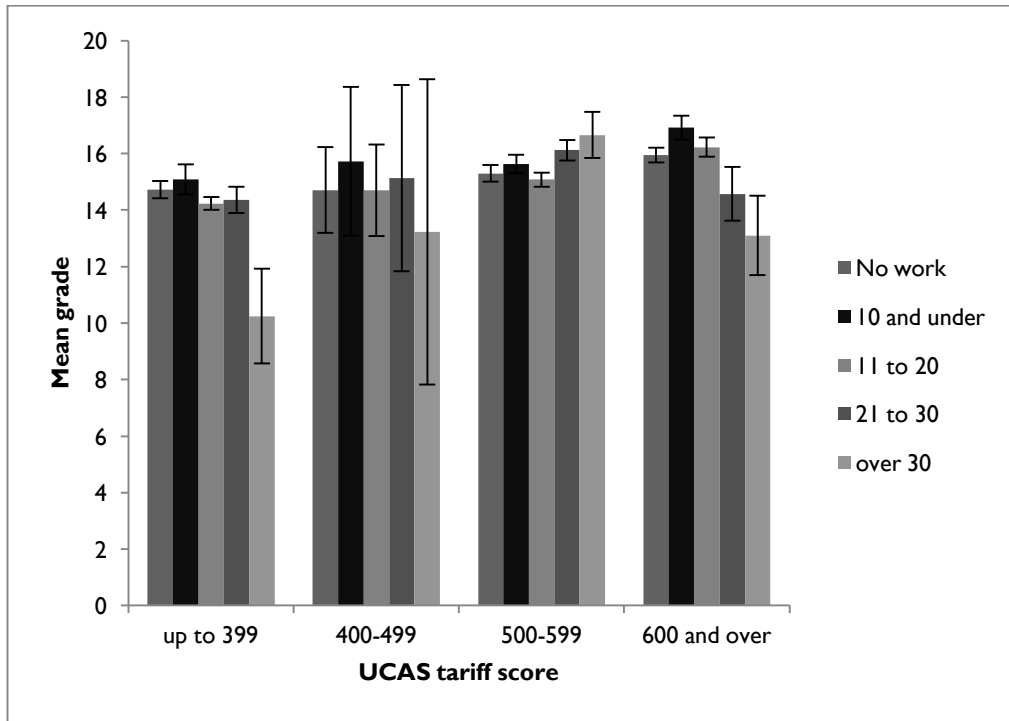


Figure 4 Mean grade (out of a possible 22) attained by UCAS tariff score and mean TTE hours, showing SEM. The groups were split such that each contains approximately 90 (+11 to -17) students who did not engage in TTE along with the corresponding number who did in each of the TTE hours categories (n=905; up to 399 n=252, 400-499 n=233, 500-599 n=263, 600+ n=157).

Type of employment

83% of the 739 study participants who stated a job title were employed in unskilled, time-critical roles including bar work, waiting tables, shop floor work and cleaning. 9% of participants held skilled roles including teaching/tutoring, coaching and nursing. 8% engaged in employment that was difficult to categorise, for instance reserve forces, librarian, caring work. Substantially more students who worked 10 hours or fewer had skilled roles, 20% compared to 6% of students who worked more than 10 hours per week (Figure 5).

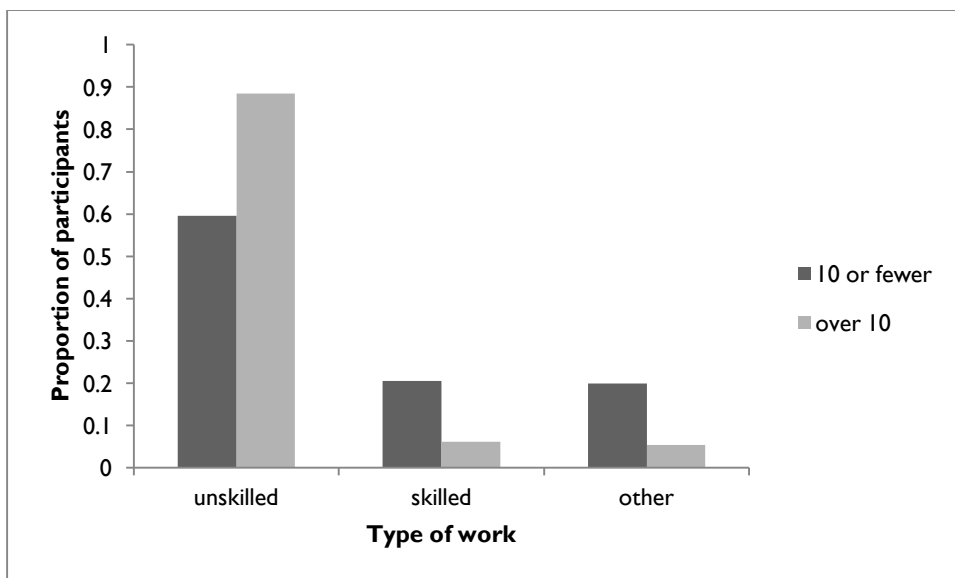


Figure 5 Type of TTE participants engaged in, split by number of hours worked (10 or fewer, over 10). Participants who engaged in 10 hours or fewer were more likely to be employed in skilled roles.

Mean grades for each of the groups in Figure 8 were compared to each other and to the mean grade of participants not engaging in TTE. Participants in ‘skilled’ roles and working 10 or fewer, and participants in ‘other’ roles and working more than 10 hours

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achieved higher grades than non-employed participants. The positive relationship found between incoming UCAS score and attainment was again accounted for in this analysis (Figure 6, Table 2).

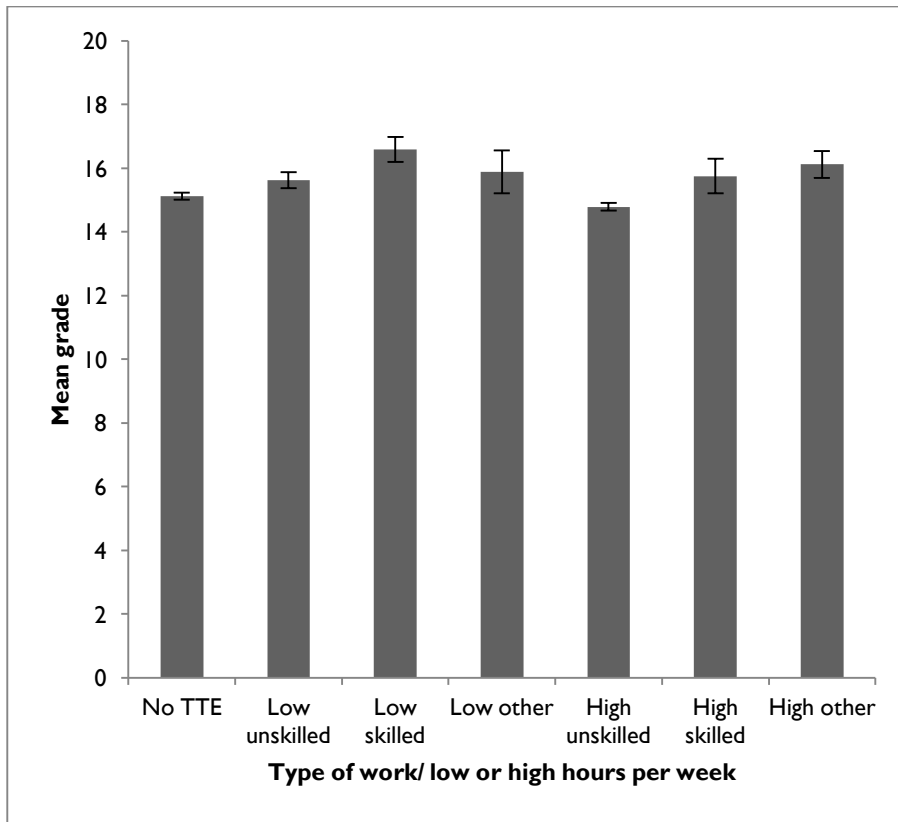


Figure 6 Mean grade (+/- 1 SEM) of participants divided by low (10 or fewer hours) TTE and high (over 10 hours) TTE and by skill level of role. No TTE, n=554; low unskilled, n=84; low skilled, n=29; low other, n=28; high unskilled, n=529; high skilled, n=37; high other, n=32.

Table 2 Generalised Linear Model output for mean participant end of year grade. Data were fitted on a linear scale with an identity link. Estimate refers to the regression coefficient for the 2 category variable (UCAS tariff and work type) and relative importance of the measured variable in relation to the reference group for the categorical and nominal variables

Factors	N	95% Wald CI			P
		Estimate	Lower	Upper	
Intercept	21	13.13	12.47	13.75	<0.01
Work type:					
≤10 hours unskilled	151	0.42	-0.28	1.13	0.23
≤10 hours skilled	357	1.41	0.23	2.58	0.02
≤10 hours other	141	0.50	-0.73	1.67	0.45
>10 hours unskilled	484	-0.18	-0.57	2.14	0.37
>10 hours skilled		1.13	-0.23	2.28	0.06
>10 hours other		1.67	0.49	2.84	0.01
No TTE (ref. group)		--			
UCAS tariff		0.004	0.003	0.005	<0.01

Statistically significant values (P ≤ 0.05) in bold. CI, confidence interval.

Student comments

Just over 300 participants included responses to the question 'is there anything the University could have done to facilitate your need to participate in TTE' and 'any other comments'. One third of those did not feel that the University could help in any way. 34 participants commented about the high cost of accommodation that was specific to Aberdeen at the time of the survey.

Comments on teachings included:

- requests for more flexibility, especially around assessment deadlines (29 participants) e.g. (the University should be) "allowing extensions on the grounds of having to work and not just medical reasons. Work impacts inevitably on mental health which most tutors take into account but it is ridiculous that often courses and tutors are unable to give allowances for students that have to work as opposed to those that have everything paid for them."
- recording all lectures (14 participants), blocking teaching (n=8) and releasing teaching and exam timetables earlier (n=15).

The results for the specific question on staff attitudes to TTE indicated that in the main, staff are sympathetic, however comments revealed that this is highly variable. 23 participants suggested that staff lack understanding of their work requirements, particularly the potential effects of sudden academic schedule changes e.g. "staff could be more understanding, including not giving short notice to timetable changes, extra classes, deadline etc as doing this often caused a problem by clashing with my work shifts (which university staff were not understanding of)."

Help with finding employment was mentioned by 24 students, split between those who would like to work on campus in any job and those who would like to find employment related to their area of study.

Suggestions to increase the value of the loan available came from 10 students, and 14 students commented on their ineligibility to apply for any form of financial support due to being non-UK.

Discussion

In accord with similar studies in this area, this study found that a substantial number of full-time undergraduates undertake paid work during term time. This survey was not exhaustive, so no comment can be made on absolute numbers, but the 58% of respondents who engaged in TTE falls within the previously reported range of 33% (Endsleigh, 2015) to 68% (Robotham, 2009). A recent study of Scottish college students (Lowe & Gayle, 2016) reported that 59% of those attending full time also participate in TTE, again suggesting that representation in this survey by students in TTE is in line with the actual numbers in TTE. Median time spent in TTE each week is within the range 16-20 hours; considerably higher than the Scottish Executive recommendation of 10 hours (Cubie, 1999).

Student perception was found to be similar to that reported in previous UK studies (McGregor, 2015; Curtis & Shani, 2002; Little & Callender, 2005). 40% of students in low TTE hours (10 or under) felt that paid work had 'definitely' or 'possibly' negatively affected their academic attainment; this rose to 80% in those engaging in more than 20 hours TTE.

Student perception is not clearly supported by their actual attainment. Students who engaged in more than 30 TTE hours had a significantly lower (12.7%) mean end of year grade than those with no TTE, but no significant difference was found between 'no TTE' and those working between 10 and 30 hours in TTE per week. Students in 10 or fewer hours of TTE had significantly higher grades (4.9%) than 'no TTE'. This relationship has been suspected in the past: Callender's 2008 study showed a slight, but non-significant, positive correlation between low numbers of TTE hours and attainment and US studies commonly show a positive effect of TTE (Stern & Nakata, 1991; Nonis & Hudson, 2006). Pre-undergraduate attainment data were interrogated as a measure of academic potential for all UK students participating in the study and although a relationship with final grade was seen, this was minimal in comparison to the relationship seen between attainment and TTE (Figures 3 & 4).

Once job type was taken into account, results became more closely aligned with previous UK studies. The largest group of students in TTE were those employed for more than 10 hours per week in unskilled positions (e.g. bar work, waiting tables, stacking shelves). This group did show a significantly lower academic performance than their non-employed peers, but of only 1.6%, almost half the difference reported by Hunt, Lincoln & Walker (2004). All other participants who engaged in TTE showed better academic performance than those in no TTE. Those in skilled positions and low numbers of working hours showed highly significantly better attainment, having almost 7% higher grades than non-employed participants.

Student funding and cost of living

71% of students who participated in this study and engaged in TTE (n=621) indicated that in order to be able to remain in full-time study, TTE was necessary. Many reported that in Aberdeen their student loan does not cover the cost of their accommodation even before essentials such as food and travel expenses are considered.

The issue of varying costs of living in different areas of the country deserves scrutiny, students choosing an institution in London have access to an additional weighting (in the region of £2500 per annum i.e. 35% more than any other area). There are grounds for consideration of a weighting system that covers the whole of the UK, rather than differentiating only London.

Student confidence, absence and flexible deadlines

Carney, McNeish and McColl (2005) study suggested that mental health can be influenced by the way in which student's working time is managed, rather than by decreasing number of working hours *per se*, and that the need for balance between study and employment should be recognised and accepted by universities. Robotham (2009) goes further, suggesting that 'full-time student' is now a misnomer and that helping working students should be a standard part of any university provision.

The results of this study show that any effects of TTE on attainment are likely to be minimal for most students, and in many cases participation in TTE is associated with enhanced grades. A simple strategy to improve student wellbeing would be to make students aware of this information. Helping students to understand that it is possible to successfully balance their study and employment should allow them to feel they have more control over their academic lives which in view of Carney *et.al.* (2005) findings could have positive effects on mental health. Conversations with students about the study results have so far supported this view.

From an examination of student comments about what the University of Aberdeen might do to minimise the impact of term time work on attainment, one repeated request was for flexibility around deadlines for coursework. Given that a large proportion of students who work during term time hold time-critical (rather than person-critical) positions, it is likely that relatively regularly their work patterns will be changed at short notice (for instance when another employee is ill). Acknowledging this type of absence as being an inevitable part of university life would be a means by which the requirement of many students to work during term time could be formally recognised. Again, this should increase feelings of being in control that are critical to mental wellbeing (Carney, McNeish, & McColl, 2005).

Formal recognition of TTE as good cause for absence and or late submission of work would also encourage all staff to be supportive of students' requirements to undertake TTE. This request echoes that from Australian students in a study by Hunt, Lincoln and Walker (2004), who felt that their university should provide flexible timetables and submission requirements.

Advance notice of timetable and flexible teaching

Another request from students is to make course and exam timetables available at the earliest possible time, so that they can plan working hours well in advance.

Flexible teaching is much appreciated and the use of online learning platforms can facilitate this more effectively than ever before. Many lectures at the University are already recorded and made available via the VLE and this system is popular among students, however some staff at the University of Aberdeen have expressed concerns that this practice could affect attendance and therefore achievement by students. A recent review by Karnad (2013) however, showed that the consensus of contemporary studies is that provision of recorded material has little to no effect on student attendance, and negligible to positive effects on attainment.

Incorporating TTE into the curriculum

There is considerable scope for 'learning from work' courses, especially at the lower undergraduate levels. Employment can provide training in valuable skills even when the role bears no relationship to the student's area of study. Fewer than 40% of students who engage in TTE considered that work experience was an important reason for undertaking TTE, which suggests that these skills are not being recognised by the majority of students as being valuable. Providing a mechanism for formal recognition of the more generic employability skills (e.g. time management, interpersonal skills) would allow students to analyse and document the benefits of any type of employment.

In addition, the results of this study strongly suggest some sort of positive interaction between attainment and TTE of 10 hours or fewer. It is impossible at this point to determine whether this is because students who choose to engage in small numbers of TTE hours are inherently better organised than their peers, or whether low numbers of TTE hours have a positive impact on student performance, but this area certainly merits further investigation.

Conclusion

The results of this study do not fully reflect those of past UK studies. Previously, students engaging in TTE have been reported to show significantly lower attainment than their non-employed peers (Callender, 2008; Hunt, Lincoln, & Walker, 2004). In this study, students in more than 10 hours of TTE per week and in unskilled roles were the only group shown to have a significantly lower mean attainment than those not in TTE, but this effect was small (1.6% lower), suggesting that any negative effects of TTE on attainment may be minimal for most students. The study also suggests that students in 10 or fewer hours of TTE per week have significantly higher mean grades than those in no TTE and this effect is greater if the TTE role is a skilled one.

This study was not capable of assessing other areas of student lives that may be compromised by the requirement to participate in TTE, particularly effects on mental health which has been highlighted previously as an area for concern (Carney, McNeish, & McColl, 2005; Mounsey, Vandehey, & Diekhoff, 2013).

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Areas that do align with results from previous studies are student perception of the effects of TTE on attainment, as TTE hours increase, students perceive greater negative impacts, and student suggestions for support. Given the large number of students who engage in TTE through necessity (71% of working students in this study), it seems logical that universities should try to support this requirement through systems such as allowing flexibility around assessment deadlines, providing early, accurate and detailed timetable information and providing online resources to complement classroom teaching (e.g. recorded lectures).

Given the likelihood that current UK higher education funding system will continue into the foreseeable future, student requirement to engage in TTE is likely to remain high. As educators within that system, we have a moral responsibility to support this requirement. We are also likely to have a pressing practical reason to provide better support to students, in the form of the Teaching Excellence Framework. Luckily these two drivers complement each other, both highlighting that universities need to recognise the role and scale of TTE and work towards providing robust support systems for those who engage in TTE. A further driver might also be the positive relationship between some categories of TTE and attainment: embracing a positive attitude to TTE by incorporation into the curriculum and by ensuring that students have accurate information about its probable effects should help to generate a model of TTE being a co-curricular activity rather than a hindrance to learning.

Biographies

Mrs Catherine Dennis is a lecturer in the School of Biological Science at the University of Aberdeen. She has been teaching in FE and HE for 20 years, in the area of biological sciences. She has provided pastoral care for many students and is interested in the challenges that leaving home to live and study, often with minimal financial support, raise for young people.

Dr Vasilis Louca is a lecturer in the School of Biological Sciences at the University of Aberdeen, and has been involved in HE teaching in biology for 5 years. Having trained as ecologist, he has a lot of experience in analysis of large datasets. He maintains an active interest in finding new ways of improving the student learning experience.

Mr John Lemon is emeritus computing advisor at the University of Aberdeen and has been heavily involved in all aspects of student surveys for a number of years.

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